Bounce Imaging is a dual-focus (private/government) technology company that develops and produces tactical 360-degree camera systems designed so that public safety professionals, military operators, and first responders can gain safety and situational awareness. Our camera systems were developed with the direct support and feedback of public safety professionals (ex: police SWAT teams, search and rescue teams, and Federal law enforcement teams). Existing Bounce systems are currently in use with over 450+ different agencies around the country, as well as within the Department of Defense's Special Operations Community. Some of these customers include NYPD, LAPD, FBI, USMS, Secret Service, ATF, DHS Border Patrol as well as several SOCOM units within the Department of Defense. Over 1000+ units have been sold to commercial customers around the country. We have also had several successful SBIR projects with the USAF.

Our devices are able to be used in many law enforcement applications. The ball can be thrown into a room to gain awareness while breaching, mounted via a pole or tether and even harnessed to a K9. In utilizing these applications law enforcement and agents are able to gain situational awareness before making entry into a structure, attic, crawl space, hallway, basement and many more possible applications. The benefits of the system are due to its unique technological capabilities.

The technology our systems are enabled with is unique and does not display a traditional format (BSV) video generally used in 360-degree video. In addition to the video frames, the provided video includes metadata that provides a set of quaternion values for determining the orientation of the imaging system relative to the ground and to the user's selected orientation. This allows for horizontally and vertically stabilized video regardless of camera movement. Each camera is equipped with IR LEDs that are controlled by the applications interface on an end users' phone or device. This allows for use of the camera system in daytime or nighttime operations. On board LEDs produce over 130W of near-infrared light which makes the sensor ideal for use as a subterranean tool or for use to clear any space with visible light is not present.

The system's image processing does not incorporate traditional SURF/SIFT image processing algorithms for feature detection. Instead, it is based on an initial intrinsic/extrinsic calibration from a genetic optimization of parameters through sample images taken in a precisely known environment. Then, panoramic images are reconstructed at the pixel level from lookup tables. This process allows for a 200 times more efficient processing speed improvement over traditional methods and ensures that the system is resistant to noise or other image problems. This makes the camera more rugged in harsh environments and less susceptible to feedback from external forces. This stitching technology can be applied on any spectrum including thermal and visual. The camera systems also come equipped with speaking features that enable direct two way communication through the device itself. It also has unparalleled stabilization and stitching capabilities that provides the ability for the device to spin while simultaneously maintaining the same delivered image.